

KCC 4921 (K-C 16,163)  
PATENT

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Withdrawn) An adhesive composition, comprising:  
an atactic polymer having a degree of crystallinity of less than about 20% and a number-average molecular weight between about 1,000 and about 300,000; and  
an isotactic polymer having a degree of crystallinity of at least about 40% and a number-average molecular weight between about 3,000 and about 200,000.
2. (Withdrawn) The adhesive composition of Claim 1, wherein the degree of crystallinity of the atactic polymer is less than about 15%.
3. (Withdrawn) The adhesive composition of Claim 1, wherein the degree of crystallinity of the isotactic polymer is at least about 60%.
4. (Withdrawn) The adhesive composition of Claim 1, wherein the degree of crystallinity of the isotactic polymer is at least about 80%.
5. (Withdrawn) The adhesive composition of Claim 1, wherein the isotactic polymer is at least 60% isotactic.

KCC 4921 (K-C 16,163)  
PATENT

6. (Withdrawn) The adhesive composition of Claim 1, wherein the isotactic polymer is at least 70% isotactic.

7. (Withdrawn) The adhesive composition of Claim 1, wherein the isotactic polymer is at least 80% isotactic.

8. (Withdrawn) The adhesive composition of Claim 1, wherein the number-average molecular weight of the atactic polymer is between about 3,000 and about 100,000.

9. (Withdrawn) The adhesive composition of Claim 1, wherein the number-average molecular weight of the isotactic polymer is between about 10,000 and about 100,000.

10. (Withdrawn) The adhesive composition of Claim 1, wherein the adhesive composition is hot-melt processable at less than about 450 degrees Fahrenheit.

11. (Withdrawn) The adhesive composition of Claim 1, wherein the adhesive composition is hot-melt processable at less than about 400 degrees Fahrenheit.

12. (Withdrawn) The adhesive composition of Claim 1, wherein the adhesive composition is hot-melt processable at less than about 375 degrees Fahrenheit.

13. (Withdrawn) The adhesive composition of Claim 1, wherein the adhesive composition is hot-melt processable at less than about 350 degrees Fahrenheit.

KCC 4921 (K-C 16,163)  
PATENT

14. (Withdrawn) The adhesive composition of Claim 1, wherein the adhesive composition has a melt index between about 100 and about 2000 grams per 10 minutes.

15. (Withdrawn) The adhesive composition of Claim 1, wherein the adhesive composition has a melt index between about 200 and about 1800 grams per 10 minutes.

16. (Withdrawn) The adhesive composition of Claim 1, wherein the adhesive composition has a melt index between about 500 and about 1500 grams per 10 minutes.

17. (Withdrawn) The adhesive composition of Claim 1, comprising between about 50 and about 90 weight percent of the atactic polymer, and between about 5 and about 50 weight percent of the isotactic polymer.

18. (Withdrawn) The adhesive composition of Claim 1, wherein the atactic polymer comprises atactic polypropylene.

19. (Withdrawn) The adhesive composition of Claim 1, wherein the atactic polymer is selected from the group consisting of: low density polyethylene, atactic polystyrene, atactic polybutene, amorphous polyolefin copolymer, and combinations thereof.

KCC 4921 (K-C 16,163)  
PATENT

20. (Withdrawn) The adhesive composition of Claim 19, wherein the low density polyethylene has a density in a range of 0.910 to 0.935 grams per cubic centimeter.

21. (Withdrawn) The adhesive composition of Claim 1, wherein the isotactic polymer comprises isotactic polypropylene.

22. (Withdrawn) The adhesive composition of Claim 1, wherein the isotactic polymer is selected from the group consisting of: high density polyethylene, isotactic polystyrene, isotactic polybutene, and combinations thereof.

23. (Withdrawn) The adhesive composition of Claim 22, wherein the high density polyethylene has a density in a range of 0.935 to 0.980 grams per cubic centimeter.

24. (Currently Amended) A laminated structure comprising at least a portion of a first layer attached to at least a portion of a second layer using an adhesive composition, the adhesive composition comprising an atactic polymer having a degree of crystallinity of less than about 20% and a number-average molecular weight between about 1,000 and about 300,000, and an isotactic polymer having a degree of crystallinity of at least about 40% and a number-average molecular weight between about 3,000 and about 200,000, wherein the first layer is a neck-bonded laminate substrate.

KCC 4921 (K-C 16,163)  
PATENT

25. (Original) The laminated structure of Claim 24, wherein the laminated structure has a static-peel-failure time of at least about 1 hour.

26. (Original) The laminated structure of Claim 24, wherein the laminated structure has a static-peel-failure time of at least about 8 hours.

27. (Original) The laminated structure of Claim 24, wherein the laminated structure has a static-peel-failure time of at least about 24 hours.

28. (Original) The laminated structure of Claim 24, wherein the laminated structure has a relative accretion value of less than 1.

29. (Original) The laminated structure of Claim 24, wherein the laminated structure has a relative accretion value of less than 0.5.

30. (Original) The laminated structure of Claim 24, wherein the laminated structure has a relative accretion value of less than 0.2.

31. (Previously Presented) The laminated structure of Claim 24, wherein the first and second layers comprise a single material, said single material being folded over and adhesively bonded to itself.

KCC 4921 (K-C 16,163)  
PATENT

32. (Currently Amended) The laminated structure of Claim 24, wherein ~~each of the first and second layers~~ the second layer is selected from the group consisting of: nonwoven material, woven material, film, and an elasticized component.

33. (Currently Amended) The laminated structure of Claim 24, wherein ~~at least one of the first and second layers~~ the second layer comprises at least one of the group consisting of cellulosic material, thermoplastic material, and combinations thereof.

34. (Withdrawn) An absorbent article comprising the laminated structure of Claim 24.

35. (Withdrawn) The adhesive composition of Claim 1, further comprising up to 50% by weight of a combination of additives selected from the group consisting of: a tackifier, an antioxidizing agent, color pigment, filler, and a polymer compatibilizer, wherein the adhesive composition has an open time of up to 2 minutes.

36. (Withdrawn) The adhesive composition of Claim 35, wherein the adhesive composition has an open time of up to 30 seconds.

37. (Withdrawn) The adhesive composition of Claim 35, wherein the adhesive composition has an open time of up to 10 seconds.

KCC 4921 (K-C 16,163)  
PATENT

38. (Withdrawn) The adhesive composition of Claim 35, wherein the adhesive composition has an open time of up to 1 second.

39. (Withdrawn) An absorbent article comprising the adhesive composition of Claim 1.

40. (Withdrawn) An adhesive composition, comprising:  
at least 50% and less than 80% by weight of an atactic polymer having a degree of crystallinity of less than about 20% and a number-average molecular weight of at least 3,000 and less than 100,000; and

between about 5% and about 40% by weight of an isotactic polymer having a degree of crystallinity of at least about 40%.

41. (Withdrawn) The adhesive composition of Claim 40, wherein the degree of crystallinity of the atactic polymer is less than about 15%.

42. (Withdrawn) The adhesive composition of Claim 40, wherein the degree of crystallinity of the isotactic polymer is at least about 60%.

43. (Withdrawn) The adhesive composition of Claim 40, wherein the degree of crystallinity of the isotactic polymer is at least about 80%.

KCC 4921 (K-C 16,163)  
PATENT

44. (Withdrawn) The adhesive composition of Claim 40, wherein the isotactic polymer is at least 60% isotactic.

45. (Withdrawn) The adhesive composition of Claim 40, wherein the isotactic polymer is at least 70% isotactic.

46. (Withdrawn) The adhesive composition of Claim 40, wherein the isotactic polymer is at least 80% isotactic.

47. (Withdrawn) The adhesive composition of Claim 40, wherein the number-average molecular weight of the isotactic polymer is between about 3,000 and about 200,000.

48. (Withdrawn) The adhesive composition of Claim 40, wherein the number-average molecular weight of the isotactic polymer is between about 10,000 and about 100,000.

49. (Withdrawn) The adhesive composition of Claim 40, wherein the adhesive composition has a melt index between about 100 and about 2000 grams per 10 minutes.

50. (Withdrawn) The adhesive composition of Claim 40, wherein the adhesive composition has a melt index between about 200 and about 1800 grams per 10 minutes.

51. (Withdrawn) The adhesive composition of Claim 40, wherein the adhesive composition has a melt index between about 500 and about 1500 grams per 10 minutes.



KCC 4921 (K-C 16,163)  
PATENT

52. (Withdrawn) The adhesive composition of Claim 40, wherein the atactic polymer comprises atactic polypropylene.

53. (Withdrawn) The adhesive composition of Claim 40, wherein the atactic polymer is selected from the group consisting of: low density polyethylene, atactic polystyrene, atactic polybutene, amorphous polyolefin copolymer, and combinations thereof.

54. (Withdrawn) The adhesive composition of Claim 53, wherein the low density polyethylene has a density in a range of 0.910 to 0.935 grams per cubic centimeter.

55. (Withdrawn) The adhesive composition of Claim 40, wherein the isotactic polymer comprises isotactic polypropylene.

56. (Withdrawn) The adhesive composition of Claim 40, wherein the isotactic polymer is selected from the group consisting of: high density polyethylene, isotactic polystyrene, isotactic polybutene, and combinations thereof.

57. (Withdrawn) The adhesive composition of Claim 56, wherein the high density polyethylene has a density in a range of 0.935 to 0.980 grams per cubic centimeter.

58. (Withdrawn) A method of making an adhesive composition, comprising the steps of:

KCC 4921 (K-C 16,163)  
PATENT

providing an atactic polymer having a degree of crystallinity of less than about 20% and a number-average molecular weight between about 1000 and about 300,000;

providing an isotactic polymer having a degree of crystallinity of at least about 40% and a number-average molecular weight between about 3000 and about 200,000;

heating the atactic polymer and the isotactic polymer until the atactic polymer and the isotactic polymer are liquified;

blending the heated atactic polymer and the heated isotactic polymer to form an adhesive composition that is melt-processable at a temperature of less than about 450 degrees Fahrenheit.

59. (Withdrawn) The method of Claim 58, wherein the atactic polymer comprises atactic polypropylene.

60. (Withdrawn) The method of Claim 58, wherein the atactic polymer is selected from the group consisting of: low density polyethylene, atactic polystyrene, atactic polybutene, amorphous polyolefin copolymer, and combinations thereof.

61. (Withdrawn) The method of Claim 60, wherein the low density polyethylene has a density in a range of 0.910 to 0.935 grams per cubic centimeter.

KCC 4921 (K-C 16,163)  
PATENT

62. (Withdrawn) The method of Claim 58, wherein the isotactic polymer comprises isotactic polypropylene.

63. (Withdrawn) The method of Claim 58, wherein the isotactic polymer is selected from the group consisting of: high density polyethylene, isotactic polystyrene, isotactic polybutene, and combinations thereof.

64. (Withdrawn) The method of Claim 63, wherein the high density polyethylene has a density in a range of 0.935 to 0.980 grams per cubic centimeter.

65. (Withdrawn) The method of Claim 58, wherein the adhesive composition comprises between about 50 and about 90 weight percent of the atactic polymer, and between about 5 and about 50 weight percent of the isotactic polymer.

66. (Withdrawn) The method of Claim 58, further comprising the steps of:

- providing a first substrate;
- providing a second substrate;
- applying the adhesive composition to at least one of the first substrate and the second substrate; and
- joining at least a portion of the first substrate to at least a portion of the second substrate with at least a portion of the applied adhesive composition positioned between the first substrate and second substrate.

KCC 4921 (K-C 16,163)  
PATENT

67. (Withdrawn) The method of Claim 66, wherein the first and second substrates are each part of a single substrate.

68. (Withdrawn) The method of Claim 66, wherein each of the first and second substrates is selected from the group consisting of: nonwoven material, woven material, film, and an elasticized component.

69. (Withdrawn) The method of Claim 66, wherein at least one of the first and second substrates comprises at least one of the group consisting of cellulosic material, thermoplastic material, and combinations thereof.

70. (Previously Presented) A laminated structure comprising a first neck-bonded laminate substrate and a second neck-bonded laminate substrate, said first neck-bonded laminate substrate being bonded to said second neck-bonded laminate substrate with an adhesive composition comprising an atactic polymer having a degree of crystallinity of less than about 20% and a number-average molecular weight of from about 1,000 to about 300,000 and an isotactic polymer having a degree of crystallinity of at least about 40% and a number-average molecular weight of from about 3,000 to about 200,000.

71. (Previously Presented) The laminated structure as set forth in claim 70 wherein at least one of said first neck-bonded laminate substrate and said second neck-bonded laminate substrate

KCC 4921 (K-C 16,163)  
PATENT

comprises a polyethylene layer sandwiched between two spunbond polypropylene layers.

72. (Previously Presented) The laminated structure as set forth in claim 70 wherein one or both of said first neck-bonded laminate substrate and said second necked-bonded laminated substrate comprises a material selected from the group consisting of a nonwoven material, a woven material, a film, an elasticized component, a cellulosic material, a thermoplastic material, a polypropylene spunbonded material, or combinations thereof.

73. (Previously Presented) The laminated structure as set forth in claim 70 wherein said adhesive composition is in liquefied form.

74. (Previously Presented) The laminated structure as set forth in claim 70 wherein said adhesive composition is hot-melt processable at a temperature of about 450°F or less.

75. (Previously Presented) The laminated structure as set forth in claim 70 wherein the degree of crystallinity of said atactic polymer is less than about 15%.

76. (Previously Presented) The laminated structure as set forth in claim 70 wherein the degree of crystallinity of said isotactic polymer is at least about 60%.

77. (Previously Presented) The laminated structure as set forth in claim 70 wherein said adhesive composition comprises between about 50 and about 90 weight percent of the atactic

KCC 4921 (K-C 16,163)  
PATENT

polymer and between about 5 and about 50 weight percent of the isotactic polymer.

78. (Previously Presented) The laminated structure as set forth in claim 70 wherein said atactic polymer is selected from the group consisting of low density polyethylene, atactic polystyrene, atactic polybutene, amorphous polyolefin copolymer and combinations thereof.

79. (Previously Presented) The laminated structure as set forth in claim 70 wherein said atactic polymer comprises atactic polypropylene.

80. (Previously Presented) The laminated structure as set forth in claim 70 wherein said isotactic polymer is selected from the group consisting of high density polyethylene, isotactic polystyrene, isotactic polybutene and combinations thereof.

81. (Previously Presented) The laminated structure as set forth in claim 70 wherein said isotactic polymer comprises isotactic polypropylene.

82. (Previously Presented) The laminated structure as set forth in claim 70 wherein at least one of said first neck-bonded laminate substrate and said second neck-bonded laminate substrate is a stretch-bonded laminate composed of an elongated elastic web or elongated elastomeric strands bonded between two spunbonded layers.

KCC 4921 (K-C 16,163)  
PATENT

83. (Withdrawn) A process for producing a laminated structure comprising a first neck-bonded laminate substrate and a second neck-bonded laminate substrate, the process comprising bonding together said first neck-bonded laminate substrate and said second neck-bonded laminate substrate with an adhesive composition comprising an atactic polymer having a degree of crystallinity of less than about 20% and a number-average molecular weight of from about 1,000 to about 300,00 and an isotactic polymer having a degree of crystallinity of at least about 40% and a number-average molecular weight of from about 3,000 to about 200,000.

84. (Withdrawn) The process as set forth in claim 83 wherein at least one of said first necked-bonded laminate substrate and said second neck-bonded laminate substrate comprises a polyethylene layer sandwiched between two spunbond polypropylene layers.

85. (Withdrawn) The process as set forth in claim 83 wherein one or both of said first neck-bonded laminate substrate and said second necked-bonded laminate substrate comprises a material selected from the group consisting of a nonwoven material, a woven material, a film, an elasticized component, cellulosic material, thermoplastic material, a polypropylene spunbonded material, or combinations thereof.

86. (Withdrawn) The process as set forth in claim 83 wherein said adhesive composition is in liquefied form.

KCC 4921 (K-C 16,163)  
PATENT

87. (Withdrawn) The process as set forth in claim 83 wherein said adhesive composition is hot-melt processable at a temperature of about 450°F or less.

88. (Withdrawn) The process as set forth in claim 83 wherein the degree of crystallinity of said atactic polymer is less than about 15%.

89. (Withdrawn) The process as set forth in claim 83 wherein the degree of crystallinity of said isotactic polymer is at least about 60%.

90. (Withdrawn) The process as set forth in claim 83 wherein said adhesive composition comprises between about 50 and about 90 weight percent of the atactic polymer and between about 5 and about 50 weight percent of the isotactic polymer.

91. (Withdrawn) The process as set forth in claim 83 wherein said atactic polymer is selected from the group consisting of low density polyethylene, atactic polystyrene, atactic polybutene, amorphous polyolefin copolymer and combinations thereof.

92. (Withdrawn) The process as set forth in claim 83 wherein said atactic polymer comprises atactic polypropylene.

93. (Withdrawn) The process as set forth in claim 83 wherein said isotactic polymer is selected from the group



KCC 4921 (K-C 16,163)  
PATENT

consisting of high density polyethylene, isotactic polystyrene, isotactic polybutene and combinations thereof.

94. (Withdrawn) The process as set forth in claim 83 wherein said isotactic polymer comprises isotactic polypropylene.

95. (Withdrawn) The process as set forth in claim 83 wherein at least one of said first neck-bonded laminate substrate and said second neck-bonded laminate substrate is a stretch-bonded laminate composed of an elongated elastic web or elongated elastomeric strands bonded between two spunbonded layers.

96. (Withdrawn) A process for producing a necked-bonded laminate comprising the steps of:

- a) providing a first necked-bonded substrate and a second necked-bonded substrate;
- b) providing an atactic polymer having a degree of crystallinity of about 20% or less and a number-average molecular weight of from about 1,000 to about 300,000 and an isotactic polymer having a degree of crystallinity of at least 40% and a number-average molecular weight of from about 3,000 to about 200,000;
- c) heating said atactic and isotactic polymers so that they are sufficiently liquefied for blending;
- d) blending the heated atactic and isotactic polymers to form an adhesive composition that is melt-processable at a temperature of less than about 400°F;
- e) applying said adhesive composition to said first substrate, said second substrate or both substrates; and

KCC 4921 (K-C 16,163)  
PATENT

f) joining at least a portion of said first substrate to at least a portion of said second substrate so that said adhesive composition is positioned between said first and second substrates.

97. (Withdrawn) The process as set forth in claim 96 wherein at least one of said necked-bonded substrates comprises a polyethylene layer sandwiched between two polypropylene spunbonded layers.

98. (Withdrawn) The process as set forth in claim 96 wherein one or both of said first neck-bonded laminate substrate and said second necked-bonded substrate comprises a material selected from the group consisting of a nonwoven material, a woven material, a film, an elasticized component, cellulosic material, thermoplastic material or combinations thereof.

99. (Withdrawn) The process as set forth in claim 96 wherein at least one of said first neck-bonded laminate substrate and said second neck-bonded laminate substrate comprises a spunbond polypropylene layer.

100. (Withdrawn) The process as set forth in claim 96 wherein the degree of crystallinity of said atactic polymer is less than about 15%.

101. (Withdrawn) The process as set forth in claim 96 wherein the degree of crystallinity of said isotactic polymer is at least about 60%.

KCC 4921 (K-C 16,163)  
PATENT

102. (Withdrawn) The process as set forth in claim 96 wherein said adhesive composition comprises between about 50 and about 90 weight percent of the atactic polymer and between about 5 and about 50 weight percent of the isotactic polymer.

103. (Withdrawn) The process as set forth in claim 96 wherein said atactic polymer is selected from the group consisting of low density polyethylene, atactic polystyrene, atactic polybutene, amorphous polyolefin copolymer and combinations thereof.

104. (Withdrawn) The process as set forth in claim 96 wherein said atactic polymer comprises atactic polypropylene.

105. (Withdrawn) The process as set forth in claim 96 wherein said isotactic polymer is selected from the group consisting of high density polyethylene, isotactic polystyrene, isotactic polybutene and combinations thereof.

106. (Withdrawn) The process as set forth in claim 96 wherein said isotactic polymer comprises isotactic polypropylene.

107. (Withdrawn) The process as set forth in claim 96 wherein at least one of said substrates is a stretch-bonded laminate composed of an elongated elastic web or elongated elastomeric strands bonded between two spunbonded layers.